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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/618,405	07/18/2000	Khaim Yong Tan	70990061-1	9784

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EXAMINER	
LAM, TUAN THIEU	
ART UNIT	PAPER NUMBER
2816	

DATE MAILED: 07/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)	
	09/618,405	TAN ET AL.	
	Examiner	Art Unit	
	Tuan T. Lam	2816	

-- The MAILING DATE of this communication appears n the cover sheet with the corresp ndence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 July 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 6-16* is/are rejected.

7)☒ Claim(s) *2-5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 July 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 6-9 and 11-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 6, the recitation of "a second input coupled to an inverted reference clock signal" is indefinite because it is misdescriptive. Figure 4 clearly shows the second input of the NAND gate (46) is coupled to the signal (IN1) as recited in claim 5. correction is required.

In claim 7, the recitation of "the pulse width" in line 2 is indefinite because it is unclear as to which is the pulse width that the applicant refers thereto. The recitation of "Y-X" is indefinite because it is unclear as to what X is representing. Clarification is required.

In claim 8, the recitation of "the second input of the three-input NAND gate is coupled to an inverted reference clock signal" is indefinite because it is misdescriptive. Figure 4 clearly shows second input of the NAND gate (46) is coupled to the signal (IN1) as recited in claim 5.

In claim 12, the recitation of "a reference clock signal" in line12-13 is indefinite because it is unclear as to if this reference clock signal is the same as or is different than the reference clock signal recited in line 2. Clarification and correction are required.

Claims 9, 11 and 13-16 are indefinite because of the technical deficiencies of claims 6 and 12.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Nakao (USP 5,552,727). Figure 9 shows a clock synchronization circuit comprising a programmable delay line (60) coupled to the reference clock signal (1) to produce a delay adjusted delayed output clock signal (18) that becomes increasingly closer to being in synchronization with the reference clock signal, and a phase detector (3) coupled to the reference clock signal for detecting a phase difference between the two clock signals and for generating an in synchronization signal (22) when the in-synchronization state is reached as called for in claim 1.

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 10 is rejected under 35 U.S.C. 102(e) as being anticipated by Kuge (US 2001/0043102A1). Figure 1 shows a clock synchronization circuit comprising a programmable delay line (10, 20) coupled to the reference clock signal (ORGCLK) to produce a delay adjusted delayed output clock signal (FBCLK) that becomes increasingly closer to being in synchronization with the reference clock signal, and a phase detector (30) coupled to the reference clock signal for detecting a phase difference between the two clock signals and for generating an in synchronization signal (ZLOCK) when the in-synchronization state is reached as called for in claim 1.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakao (USP 5,552,727). Figure 1 shows a clock synchronization circuit comprising a programmable delay line (10, 20) coupled to the reference clock signal (ORGCLK) to produce a delay adjusted delayed output clock signal (FBCLK) that becomes increasingly closer to being in synchronization with the reference clock signal, and a phase detector (30) coupled to the reference clock signal for detecting a phase difference between the two clock signals and for generating an in synchronization signal (ZLOCK) when the in-synchronization state is reached. Nakao does not disclose the clock synchronization circuit is implemented in a programmable gate array as called for in claim 10. However, it is notoriously well known that the programmable gate array is easy to implement at a low cost. Therefore, it would have been obvious to a person skilled in the art at the time of the invention was made to implement Nakao's clock synchronization circuit in a programmable gate array because it is cheap and easy to implement.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuge (US 2001/0043102A1). Figure 1 shows a clock synchronization circuit comprising a programmable delay line (10, 20) coupled to the reference clock signal (ORGCLK) to produce a delay adjusted delayed output clock signal (FBCLK) that becomes increasingly closer to being in

synchronization with the reference clock signal, and a phase detector (30) coupled to the reference clock signal for detecting a phase difference between the two clock signals and for generating an in synchronization signal (ZLOCK) when the in-synchronization state is reached. Kuge does not disclose the clock synchronization circuit is implemented in a programmable gate array as called for in claim 10. However, it is notoriously well known that the programmable gate array is easy to implement at a low cost. Therefore, it would have been obvious to a person skilled in the art at the time of the invention was made to implement Kuge's clock synchronization circuit in a programmable gate array because it is cheap and easy to implement.

Allowable Subject Matter

9. Claims 2-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 6-9 and 11 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

11. Claims 12-16 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Lam whose telephone number is 703-305-3791. The examiner can normally be reached on Monday to Friday (7:30 am to 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY P CALLAHAN can be reached on 730-308-4876. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Tuan T. Lam
Primary Examiner
Art Unit 2816

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July 22, 2003